

Sub A31

CLAIMS

What is claimed is:

- 3 1. A well completion float shoe/collar tool comprising:
 - 4 an outer tubular member and an inner tubular member, said outer tubular
 - 5 member having both upwardly facing and downwardly facing fluid jet openings, said
 - 6 upwardly facing fluid jet openings being initially closed by said inner member during
 - 7 casing string run in;
 - 8 said inner tubular member having a bore there through initially open to fluid
 - 9 flow and permitting fluid flow to said downwardly facing fluid jet openings; and
 - 10 means for causing longitudinal movement of said
 - 11 inner member with respect to said outer member, said movement causing said
 - 12 downwardly facing jets to close and said upwardly facing jets to open.
- 13
- 14 2. A well completion float shoe/collar tool comprising:
 - 15 an inner tubular member and an outer tubular member, said outer tubular
 - 16 member having both upwardly and downwardly facing fluid jet openings therein; and
 - 17 means for selectively closing one or the other of said fluid jet openings.
- 18
- 19 3. The apparatus of claim 2 wherein said means for selectively closing comprises means for
- 20 causing relative motion of said inner member with respect to said outer member.
- 21 4. The apparatus of claim 3 wherein said relative motion comprises longitudinal relative motion.

"WELL COMPLETION CONVERTIBLE FLOAT/SHOE COLLAR"

Inventors: Musselwhite, et al

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Sum 3

2 5. The apparatus of claim 4 wherein said longitudinal relative motion is caused by means of

3 obturating an internal passage of said inner member.

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5 6. The apparatus of claim 5 wherein said obturating means includes a ball pumped down under
6 fluid pressure from the surface of the earth to said tool.

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8 7. The apparatus of claim 1 and further including:

9 valve means, activated upon said movement, to prevent fluid from re-entering
10 said outer and inner tubular members between pumping pressure strokes.

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12 8. The apparatus of claim 7 wherein said valve means comprises one or more one way flow
13 check valves.

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15 9. The apparatus of claim 8 wherein said check valves comprise flapper type valves.

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17 10. The apparatus of claim 9 wherein said flapper valves are held in their open position during
18 casing run in.

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Add A2
Add B1

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